



materials



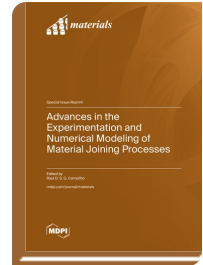
Special Issue Reprint

Advances in the Experimentation and Numerical Modeling of Material Joining Processes

www.mdpi.com/books/reprint/8616

Edited by
Raul D. S. G. Campilho

ISBN 978-3-03928-592-1 (Hardback)
ISBN 978-3-03928-591-4 (PDF)



"Advances in the Experimentation and Numerical Modeling of Material Joining Processes" is an innovative compilation offering a comprehensive exploration of the latest developments in material-joining techniques. With 22 chapters, this MDPI scientific reprint addresses adhesive bonding, welding, friction stir welding, hybrid joining, and miscellaneous topics. The editorial (Chapter 1) provides the main limitations, possible improvements, active research lines, and prospects of material joining processes. Chapters 2 to 10 relate to adhesive bonded and welded joints. Chapters 11 to 17 shift the focus to friction stir welding, covering the aerospace industry's progress, microstructure analysis, tool tilt angles, and corrosion behaviour. Hybrid joining processes are the topic of chapters 18 and 19, discussing numerical simulation of laser–arc hybrid welding and steel–aluminium joints made by resistance spot welding. Chapters 20 to 22 explore miscellaneous topics, including interpenetrating phase composites and concrete blocks in seismic areas. This volume serves as a vital resource for researchers, engineers, and practitioners, enabling a deeper understanding of material-joining techniques and inspiring further innovation.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/8616

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.